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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,395	08/24/2005	Victor Zaderej	A2-209 US	3971
23683	7590	04/24/2006	EXAMINER	
MOLEX INCORPORATED 2222 WELLINGTON COURT LISLE, IL 60532			PATEL, HARSHAD C	
			ART UNIT	PAPER NUMBER
			2839	

DATE MAILED: 04/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/517,395

Applicant(s)

ZADEREJ, VICTOR

Examiner

Harshad C. Patel

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/24/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 6, 10, 17- 34 is/are rejected.
- 7) ☒ Claim(s) 7-9 and 11-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 20, 23 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20, 23 and 24, line 1 recites the limitation "the base". There is insufficient antecedent basis for these limitations.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 19, 20 and 23 - 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanigawa et al. (US 4,865,553).

Regarding claim 1, Tanigawa et al., fig 1, discloses a hinge HEC for an electronic device comprising: a body member TC having a conductive surface 8 provided thereon; a conductive contact 9 being in electrical contact with the conductive surface, the contact being capable of movement relative to the conductive surface, yet always

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maintaining electrical contact with the conductive surface throughout the movement of the contact relative to the conductive surface.

Regarding claim 2, Tanigawa et al., fig 1, discloses, discloses a hinge, wherein a plurality of conductive surfaces are provided on said body member and a plurality of conductive contacts are provided, respective ones of the contacts being associated with respective ones of the conductive surfaces.

Regarding claim 19, Tanigawa et al., fig 1, discloses a hinge , wherein said plurality of contacts are connected together by a housing 5, 3 formed from a non-conductive material.

Regarding claim 20, Tanigawa et al., fig 1, discloses a hinge, wherein the base has opposite ends and further comprising a protrusion 6 extending outwardly from each end of the base 2, and wherein the housing 1 includes opposite end portions, each end portion having a recess 4 therein, respective protrusions being mounted in the respective recesses.

Regarding claim 23, Tanigawa et al., fig 1, discloses a hinge, wherein the base has opposite ends and further comprising a protrusion 6 extending outwardly from each end of the base.

Regarding claim 24, Tanigawa et al., figs 1 and 2, discloses a hinge, wherein the base in cross-section is formed from a first section FS which is arcuate shaped and a second section SS which is angled relative to the first section and connected to an end of the first section, the contact contacting the first and second sections during movement.

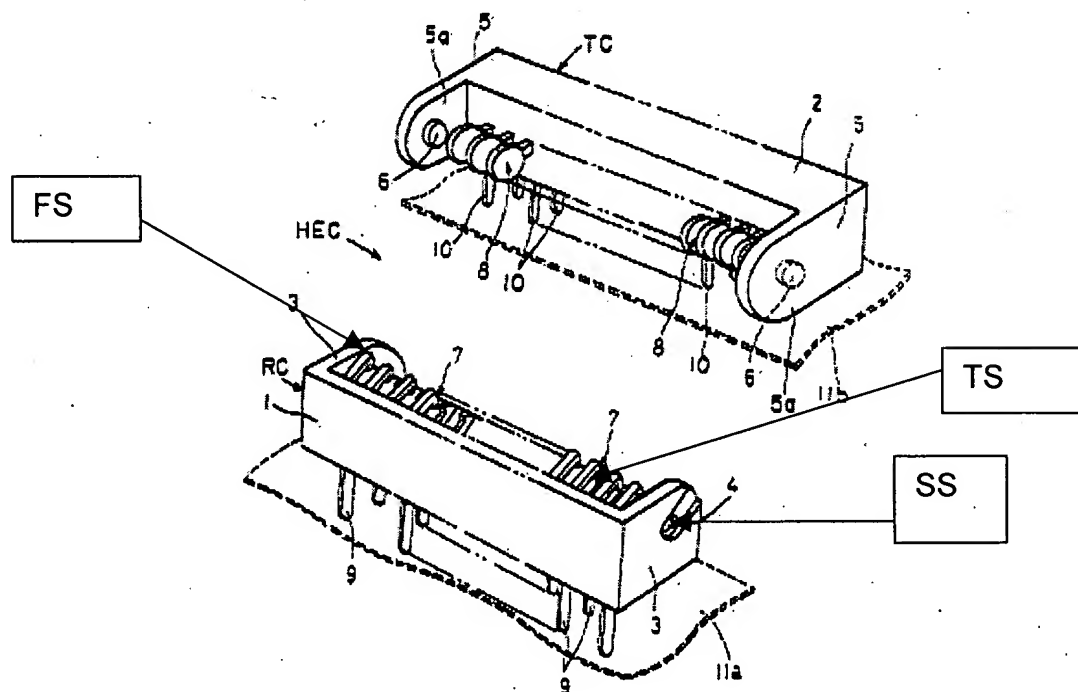
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Regarding claim 25, Tanigawa et al., fig 1, discloses a hinge, wherein said base further includes a third section TS which is flat and is provided between said first and second sections.

Regarding claim 26, Tanigawa et al., fig 1, discloses a hinge in combination with a printed wiring board, wherein the third section of the base is attached to the printed wiring board 11b.

Regarding claim 27, Tanigawa et al., fig 1, discloses a hinge, wherein the contact 7 is capable of sliding movement relative to the conductive surface.

Regarding claim 28, Tanigawa et al., fig 1, discloses a hinge, wherein said body member 14 is generally cylindrical.



4. Claims 1, 2, 17 - 19, 21, 22 and 24 - 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Rudisill et al. (US 6,272,324).

Regarding claim 1, Rudisill et al., fig 1, discloses a hinge for an electronic device comprising: a body member 82 having a conductive surface 110 provided thereon; a conductive contact 34, being in electrical contact with the conductive surface, the contact being capable of movement relative to the conductive surface, yet always maintaining electrical contact with the conductive surface throughout the movement of the contact relative to the conductive surface.

Regarding claim 2, Rudisill et al., fig 1, discloses, discloses a hinge, wherein a plurality of conductive surfaces are provided on said body member and a plurality of conductive contacts are provided, respective ones of the contacts being associated with respective ones of the conductive surfaces.

Regarding claim 17, Rudisill et al., fig 1, discloses a hinge, wherein the plurality of conductive surfaces are formed by plating a metal onto the body member.

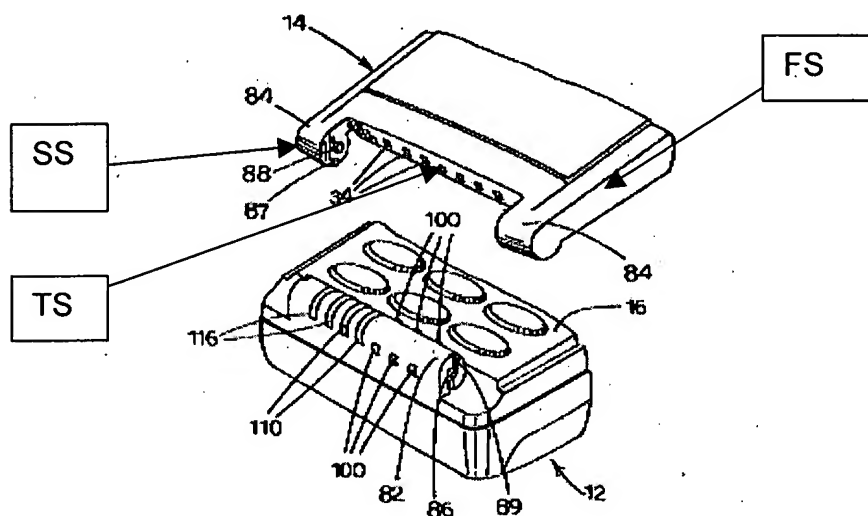
Regarding claim 18, Rudisill et al., fig 1, discloses a hinge, wherein each of the plurality of conductive surfaces is a metal track 116 attached to the body member.

Regarding claim 19, Rudisill et al., fig 1, discloses a hinge, wherein said plurality of contacts are connected together by a housing formed from a non-conductive material.

Regarding claim 21, Rudisill et al., fig 1, discloses a hinge, wherein the conductive surface is formed by plating a metal onto the body member.

Regarding claim 22, Rudisill et al., fig 1, discloses a hinge, wherein the conductive surface is a metal tack 116 attached to the body member.

Regarding claim 24, Rudisill et al., figs 1 and 2, discloses a hinge, wherein the base in cross-section is formed from a first section FS which is arcuate shaped and a second section SS which is angled relative to the first section and connected to an end of the first section, the contact contacting the first and second sections during movement.



Regarding claim 25, Rudisill et al., fig 6, discloses a hinge, wherein said base further includes a third section TS which is flat and is provided between said first and second sections.

Regarding claim 26, Rudisill et al., fig 6, discloses a hinge in combination with a printed wiring board 150, wherein the third section TS of the base is attached to the printed wiring board 150.

Regarding claim 27, Rudisill et al., fig 1, discloses a hinge, wherein the contact 34 is capable of sliding movement relative to the conductive surface.

Regarding claim 28, Rudisill et al., fig 1, discloses a hinge, wherein said body member 82, 84 is generally cylindrical.

5. Claims 1 - 5 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Gordon, Jr. (US 3,860,312).

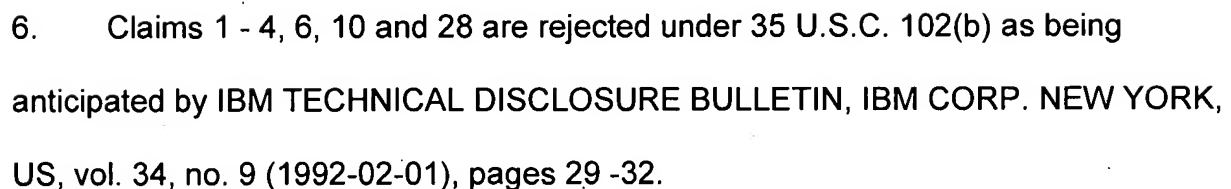
Regarding claims 1 and 27 Gordon, fig 1, discloses, a hinge 24 for an electronic device comprising: a body member 10 having a conductive surface 17 provided thereon; a conductive contact 33 being in electrical contact with the conductive surface, the contact being capable of movement (claim 27, slidable) relative to the conductive surface, yet always maintaining electrical contact with the conductive surface throughout the movement of the contact relative to the conductive surface.

Regarding claim 2, Gordon, fig 1 discloses a hinge, wherein a plurality of conductive surfaces 17 are provided on said body member 10 and a plurality of conductive contacts 14,15,16,17 are provided, respective ones of the contacts being associated with respective ones of the conductive surfaces.

Regarding claim 3. Gordon, fig 1 discloses a hinge, wherein each rib (see mark up) extends outwardly from the body member between each of the conductive surfaces.

Regarding claim 4, Gordon, fig 1 discloses a hinge, wherein at least one rib is provided on the body member.

Regarding claim 5. Gordon, fig 1 discloses a hinge, wherein further including a flex circuit 42 electrically connected to the plurality of conductive surfaces.



Regarding claim 1, IBM TECHNICAL DISCLOSURE BULLETIN, discloses, a hinge (fig 2b) for an electronic device comprising: a body member having a conductive surface (fig 1a, stationary contact pool) provided thereon; a conductive contact (inner side of the contact housing) being in electrical contact with the conductive surface, the contact being capable of movement relative to the conductive surface, yet always

maintaining electrical contact with the conductive surface throughout the movement of the contact relative to the conductive surface.

Regarding claim 2, IBM TECHNICAL DISCLOSURE BULLETIN, discloses a hinge, wherein a plurality of conductive surfaces are provided on said body member and a plurality of conductive contacts are provided, respective ones of the contacts being associated with respective ones of the conductive surfaces.

Regarding claim 3, IBM TECHNICAL DISCLOSURE BULLETIN, a hinge, wherein each rib extends outwardly from the body member between each of the conductive surfaces.

Regarding claim 4, IBM TECHNICAL DISCLOSURE BULLETIN, discloses a hinge, wherein at least one rib is provided on the body member.

Regarding claim 6, IBM TECHNICAL DISCLOSURE BULLETIN, discloses a hinge, wherein each of the plurality of conductive surfaces of contact housing is formed from a row and a column which are electrically connected to each other, the column extending at least partially around the body member and the row extending along at least a portion of a length of the body member.

Regarding claim 10, IBM TECHNICAL DISCLOSURE BULLETIN, discloses a hinge, further including a flex circuit (page 30, lines 13- 15) electrically connected to each of the row 23.

Regarding claim 28, IBM TECHNICAL DISCLOSURE BULLETIN, discloses a hinge, wherein said body member is generally cylindrical.

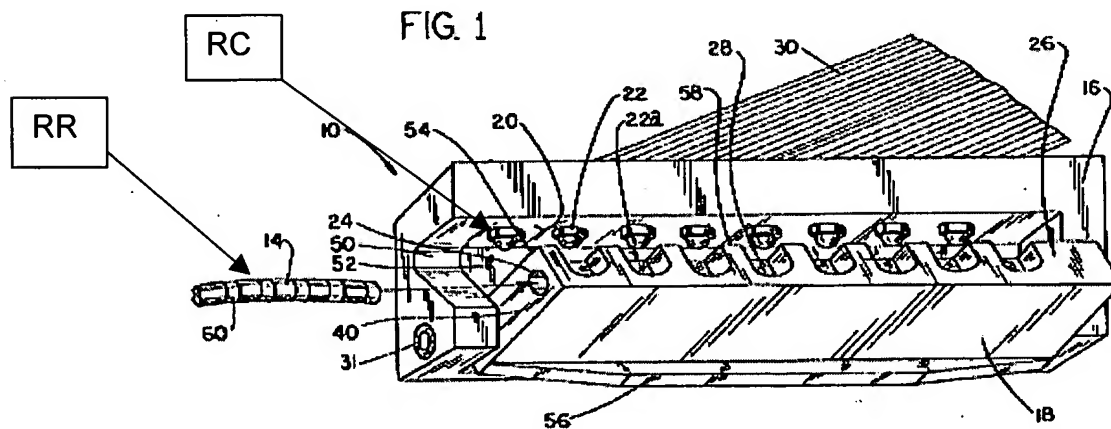
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7. Claims 1, 2, 5 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Putz (US 6,415,168).

Regarding claims 1 and 27, Putz, fig 1, discloses, a hinge for an electronic device comprising: a body member 12, 16, 18 having a conductive surface 14 provided thereon; a conductive contact 22a being in electrical contact with the conductive surface, the contact being capable of movement (claim 27, slidable) relative to the conductive surface, yet always maintaining electrical contact with the conductive surface throughout the movement of the contact relative to the conductive surface.

Regarding claim 2, Putz, fig 1, discloses a hinge, wherein a plurality of conductive surfaces 14 are provided on said body member 12 and a plurality of conductive contacts 22a are provided, respective ones of the contacts being associated with respective ones of the conductive surfaces.

Regarding claim 5, Putz, fig 1, discloses a hinge, wherein further including a flex circuit 30 electrically connected to the plurality of conductive surface 14, which are in rows.



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8. Claims 1- 5 and 28 - 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Ditzig (US 4,7,64,121).

Regarding claims 1 and 30, Ditzig, figs 3 and 7 discloses, a hinge (fig 2b) for an electronic device comprising: a body member 40 having a conductive surface 55,56, 57 provided thereon; a conductive contact 50 being in electrical contact with the conductive surface, the contact being capable of movement relative to the conductive surface, yet always maintaining electrical contact with the conductive surface throughout the movement of the contact relative to the conductive surface.

Regarding claim 2, Ditzig, figs 3 and 7 discloses a hinge, wherein a plurality of conductive surfaces are provided on said body member and a plurality of conductive contacts are provided, respective ones of the contacts being associated with respective ones of the conductive surfaces.

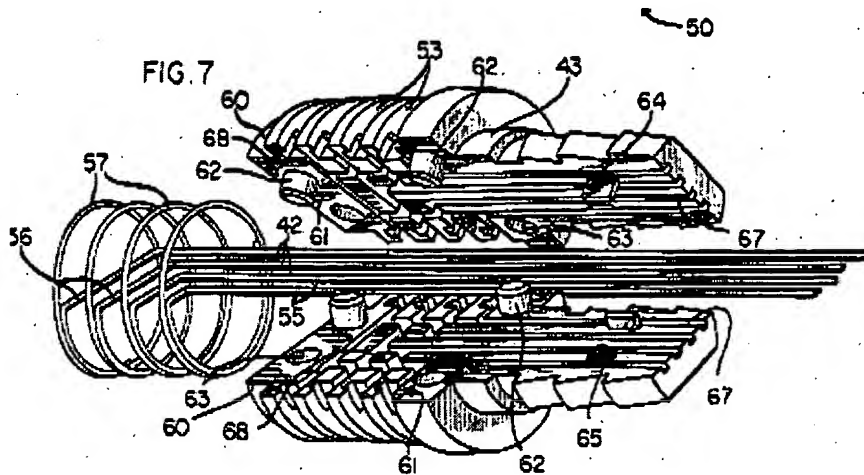
Regarding claim 3, Ditzig, figs 3 and 7 discloses a hinge, wherein each rib rear portion 53 extends outwardly from the body member between each of the conductive surfaces.

Regarding claim 4, Ditzig, figs 3 and 7 discloses a hinge, wherein at least one rib is provided on the body member.

Regarding claim 5, Ditzig, fig, discloses a hinge, further including a flex circuit 32 electrically connected to the plurality of conductive surfaces upon plugging 31.

Regarding claim 28, Ditzig, figs 3 and 7, discloses a hinge, wherein said body member 40 is generally cylindrical.

Regarding claim 29, Ditzig, figs 3 and 7, discloses a hinge, wherein said body member 40 is formed from two halves, which can be assembled from cylinder.



9. Claims 30 - 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Petri (GB 2,073,961).

Regarding claim 30, Petri, figs 1 - 3, discloses a hinge for an electronic device comprising: a body member 9; a conductive contact end of cable 4, 5, 6 and 7 associated with the body member, the conductive contact end of spring 15 and 16 including coiled spring provided within the body member, a first end 5 extending outwardly from the coiled spring and the body member 9, and a second end 6 extending outwardly from the coiled spring and the body member 9.

Regarding claim 31, Petri, figs 1 - 3, discloses a hinge, wherein the body member includes a base wall interior vertical side wall of housing 9 and a pair of walls 12 and top wall of housing 9 extending outwardly from the base wall, the coiled spring being

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mounted between the pair of walls (chambers 13 and 14) and abutting against the base wall.

Regarding claim 32, Petri, figs 1 - 3, disclose a hinge, wherein the body member further includes an aperture 10 therethrough, the coiled spring surrounding the aperture.

10. Claims 30 - 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Lange et al. (US 5,630,724).

Regarding claim 30 Lange et al., figs 1 - 4, discloses a hinge for an electronic device comprising: a body member 14 a conductive contact 20, 22 associated with the body member 14, the conductive contact end including coiled spring 24 provided within the body member, a first end 20 extending outwardly from the coiled spring and the body member, and a second end 22 extending outwardly from the coiled spring and the body member 9.

Regarding claim 31, Lange et al., figs 1 - 4, discloses a hinge, wherein the body member includes a base wall interior vertical side wall of housing 9 and a pair of walls 12 and top wall of housing 9 extending outwardly from the base wall, the coiled spring being mounted between the pair of walls and abutting against the base wall.

Regarding claim 32, Lange et al., figs 1 - 4, disclose a hinge, wherein the body member further includes an aperture therethrough, the coiled spring surrounding the aperture.

Regarding claim 33, Lange et al., figs 1 - 4, disclose a hinge, wherein a plurality of body members having conductive contacts 20, 22 associated therewith are provided

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such that the apertures are aligned, and further including a pin 12 provided through the apertures."

Regarding claim 34, Lange et al., figs 1 - 4, disclose a hinge, wherein each body member further includes a wall surrounding the aperture(wall of inner housing 16), which extends outwardly from the base wall in the same direction as the pair of walls."

Regarding claim 35, Lange et al., figs 1 - 4, disclose a hinge, wherein a plurality of body members 14, 16 having conductive contacts 20, 22, 30, 32 associated therewith are provided and are joined together by means for joining."

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rudisill et al. (US 6,272,324).

Regarding claims 20 and 23, Rudisill et al., fig 4, discloses a hinge, wherein the base 12 the housing 14.

However Rudisill et al., fig 4, specifically fails to disclose, a hinge, wherein the base has opposite ends and further comprising a protrusion extending outwardly from each end of the base, and wherein the housing includes opposite end portions, each end portion having a recess therein, respective protrusions being mounted in the respective recesses.

Rudisill et al., fig 4, disclose, a hinge, wherein the base has opposite ends and further comprising a recess 86 therein the base 12, and wherein the housing 14 includes opposite end portions, each end portion having a protrusion 88 and 87 (claim 23) extending outwardly from each end of housing respective protrusions being mounted in the respective recesses.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Rudisill et al to obtain the invention of a hinge, wherein the base has opposite ends and further comprising a protrusion extending outwardly from each end of the base, and wherein the housing includes opposite end portions, each end portion having a recess therein, respective protrusions being mounted in the respective recesses. Reversal of parts.: It has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein*, 8 USPQ 167.

Allowable Subject Matter

12. Claims 7 - 9, 11 - 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 7 recites, "A hinge, wherein each row includes at least one conductive bump thereon for providing an electrical connection between the row 14 and a respective one of the columns."

Claims 8 and 16 recites, "A hinge, wherein each column is formed from a metal track, which is detachable from the body member, each track including a portion, which engages into the respective aperture.

Claim 9 recites, "A hinge, wherein each row is formed by plating a metal surface onto the body member."

Claim 11 recites, " A hinge, further including at least one rib provided on the body member between each of the rows..

Claim 12 recites, " A hinge, further including at least one rib provided on the body member between each of the columns.

Claim 13 recites, " A hinge, further including a plurality of ribs provided on the body member between each of the columns and predetermined ones of the rib are shorter in height than reminder of the ribs."

Claim 14 recites, " A hinge, further including at least one rib RC provided on the body member between each of the rows and at least one rib provided on the body member between each of the columns."

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Claim 15 recites, " A hinge, further including a plurality of spaced apart apertures 32, 34 provided on the body member 16, respective ones of the apertures aligning with respective ones of the columns.

All the elements recited in claim 7 - 9, 11 - 16 define over the art of record.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harshad C. Patel whose telephone number is 571 272 8289. The examiner can normally be reached on M - F ; 8.00 AM TO 5.00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, T. C. Patel can be reached on 571 272 2098. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner
HCP
4/5/06



**TULSIDAS C. PATEL
SUPERVISORY PATENT EXAMINER**